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**RECORD OF ORAL HEARING**  
**UNITED STATES PATENT AND TRADEMARK OFFICE**  

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**BEFORE THE BOARD OF PATENT APPEALS**  
**AND INTERFERENCES**

*EX PARTE NICK P. DIVITTORIO*

Appeal 2009-001000  
Application 09/449,912  
Technology Center 2100

Oral Hearing Held: April 23, 2009

15 Before LEE E. BARRETT, LANCE LEONARD BARRY, and STEPHEN  
16 C. SIU, *Administrative Patent Judges*.

17 SIU, *Administrative Patent Judge.*

18

## 19 APPEARANCES:

20 ON BEHALF OF THE APPELLANT.  
21 MARK JOY, ESQUIRE (Via telephone)  
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1       The above-entitled matter came on for oral hearing on Thursday,  
2 April 23, 2009, at The U.S. Patent and Trademark Office, 600 Dulany Street,  
3 Alexandria, Virginia, before Christine L. Loeser, Notary Public.

4

5       THE COURT: I have with me Lance Barry and Stephen Siu, the  
6 other two administrative patent judges. You may proceed whenever you are  
7 ready.

8       MR. JOY: Okay. As I said before,  
9 honorable members of the Board, my name is Mark Joy and my registration  
10 number is 35562. I represent the Applicant, Divittorio and the assignee,  
11 Inventive Systems, Inc.

12       This is an appeal of U.S. application serial number 09/449,912, filed  
13 on December 2nd, 1999, just to make sure we are talking about the same  
14 application here.

15       In general, what I will initially do is describe the claimed invention  
16 with reference to the drawings and then, just to make sure that we all  
17 understand what the invention is and the general area that it pertains to, and  
18 then I will briefly describe the teachings of Sinibaldi and, finally, I will  
19 address points raised in our Briefs.

20       In general, I think that the Briefs map out the positions of both the  
21 Applicants and the Patent Office so I'm not really sure that I'll be adding  
22 much today but I certainly welcome any questions or requests for  
23 clarifications.

24       In general, I believe that the combined teachings of Applicant's  
25 submitted prior art in Sinibaldi do not teach all the elements of the

1 independent claims, nor does there appear to be a reason, that's the most  
2 important thing I think, is there does not appear to be a reason to modify  
3 Applicant's submitted prior art in view of Sinibaldi in a way that it would  
4 render the claimed invention.

5 The first thing I just wanted to make sure, I don't know how familiar  
6 you are with industrial process control systems and therefore, I was just  
7 going to really quickly refer to figure 1A which shows the general  
8 architecture of such systems.

9 They usually involve a workstation that is monitored by a human  
10 being and runs various supervisory-level programs, including ones that can  
11 view a monitored process and things like that.

12 And also, with regard to relevant previous embodiments of systems,  
13 often the workstation was where they ran what's been referred to in claim 1  
14 as the invented task, which is the one which generates the linear program  
15 outputs that render set points.

16 Those set points are passed down to item 2 in figure 1A, which is a  
17 control processor. Historically, such control processors really were tasked to  
18 do one thing and that is run these things called function blocks or control  
19 blocks. They ran them just as a set over and over again, cyclically.

20 That's considered the regulatory portion of an industrial process  
21 control system. Typically, the workstation is supervisory, down to the  
22 control processor, it's regulatory. In other words, it regulates the process  
23 based upon set points that have been established by the supervisory portion  
24 of the industrial process control system.

25 Having said that background, and getting into what the claimed

1 invention involves, I would like to direct your attention to figure 3. This  
2 describes a particular embodiment of the claimed invention, and in  
3 particular, I will map the claim elements to the figure 3. Independent claim  
4 1 pertains to a control processor for executing a set of control tasks, a  
5 dynamic model-based interactive control process.

6 The first element is, it mentions a control processor includes an  
7 embedded control task comprising a multivariable linear program. That  
8 would correspond to item 138, the application executing the model at a  
9 lower priority.

10 Then the second element of this is the multivariable -- I'm sorry, the  
11 function of that, as I mentioned, the multivariable linear program generates a  
12 set of set points for a controlled industrial processor that optimizes operation  
13 of an industrial process given a set of input values.

14 The other part of it is the set of control blocks that includes regulatory  
15 control blocks having output values that are transmitted by the control  
16 processor to field devices coupled to the industrial process. Those blocks  
17 that correspond to the blocks that are identified as 136, which is the  
18 multivariable controller block, the multivariable loop block, 132, and then  
19 there's a set, a whole bunch of them actually that are considered regulatory  
20 control blocks. That would be the input blocks at 124 and 126, 128, PID  
21 blocks 130 and 134, output block 134.

22 So there's a division between, in accordance with the claim, between  
23 an embedded task, which I have identified as 138, which runs in the  
24 background at a lower priority and a set of control blocks which are running  
25 in the foreground and at a relatively higher priority.

1           I will first ask, are there any questions about the meaning of the claim  
2 after that? It probably came out just as easily from the description of the  
3 invention in the application itself.

4           JUDGE BARRETT: No. That's fine.

5           MR. JOY: Okay. The other independent claims are very similar, and  
6 I wasn't going to go into those. I think the time is better spent addressing  
7 arguments because I think that it is pretty well explained in the specification.

8           The first thing I would like to do is – to address is the prior art and in  
9 particular, Sinibaldi, that in my understanding, it discloses a wide area  
10 network driver, including a process for distributing tasks to a set of DSPs  
11 according to current calculated load on each of the set of DSPs.

12           Now, the disclosure of particular interest is with regard to figures 12  
13 and 13 in the description at column 18, lines 25 through 28, which has been  
14 referenced by the office actions. In particular, it's a reference to a matrix. A  
15 point of disagreement that has arisen and kind of stayed throughout this  
16 process is, our position is that the matrix is merely a table in Sinibaldi while  
17 Applicants specifically recite and define a multivariable linear program.

18           That's one of the issues that we need to resolve on appeal here  
19 because we certainly have a disagreement that we were unable to resolve.

20           Addressing the grounds for rejection, in particular with regard to  
21 claim 1, there are two points that I want to raise today and one is that, as I  
22 just mentioned, Sinibaldi does not disclose the linear program. Instead, it  
23 discloses in the two figures that I mentioned, figures 12 and 13, and in the  
24 referenced text from column 18, merely a table that lists tasks and their  
25 associated processing load on selected DSP.

1           And then the second is I have actually gone into detail in my  
2 responses, even assuming that there was a multivariable linear program  
3 disclosed in Sinibaldi, the basis for combining Sinibaldi and the Applicant's  
4 submitted prior art is incorrect. As I have noted before, the basis for the  
5 Examiner's combining of the references was that it -- was that it enhances  
6 the flexibility but in my opinion, it would actually reduce the flexibility  
7 because if you look at the general, the historical role of a control processor,  
8 it's to run those regulatory control blocks.

9           By adding another program on to it, you are putting additional load  
10 on it, which could limit the scalability of the control processor, for instance.

11           As a result, it would result in – you would have to do a number of  
12 things. You might have to reduce the size of the linear program and  
13 alternatively, you might have to run your regulatory control blocks less  
14 often.

15           So I don't agree that there's a benefit of increased flexibility that arises  
16 from the teachings of Sinibaldi.

17           JUDGE BARRETT: Okay.

18           MR. JOY: With regard to -- those comments really apply to each of  
19 the independent claims, too. I won't go into each of those separately.

20           The next point would be the rejection of claims, the group of claims  
21 separately argued as 2, 3, 5, 14 and 17. And, in general, my general  
22 argument was that this supervisory control blocks were never identified by  
23 the Examiner in the responses and there's a description of supervisory  
24 control blocks at, for instance, page 9, line 20 and page 11, line 27 of  
25 Applicant's original specification.

1        The job of the supervisory control blocks is to act as -- those are  
2    blocks, first of all, let me point out that those are blocks that are executed,  
3    part of the control block scheme. So those are the ones that are run at a high  
4    priority.

5        What the Inventors did when they designed the system is that they  
6    incorporated supervisory functions into their high priority list of tasks.  
7    Those were actually used to control the overall operation of the control  
8    processor which now has additional tasks involved, downloading data from a  
9    workstation that relates to the linear program, for instance. I don't believe  
10   that element has ever been identified sufficiently in the prior art.

11       With regard to the rejection of claims 4 and 16, I really don't have  
12   anything to add beyond what's already been written in the briefs so I really  
13   won't -- I don't think it's necessary to go into the details. I really would just  
14   be repeating what's been said already. The same is true with regard to claim  
15   15 which is separately argued.

16       With regard to the rejection of claims 8, 11, 20 and 23, again, I stand  
17   by the original arguments but also I just wanted to emphasize that the  
18   repetition period that is being discussed is the embedded control tasks.  
19   That's the lower-level task, as opposed to the function, the control blocks  
20   that are executed, you know, the higher one.

21       There's two separate identified cycles that are associated with this  
22   invention. One is the lower level and one is the higher. I don't know how to  
23   say it, it's Messih, M-E-S-S-I-H, does not disclose the repetition period with  
24   regard to the lower-level task.

25       I have nothing to add with regard to the rejection of claims 9 and 21,

1 other than what I had stated before.

2 With regard to the rejection of claims 12 and 24, I just wanted to add  
3 that I couldn't find anything that even remotely applied to what was being  
4 claimed in either of those two. If the Board finds that there's disclosure in  
5 column 3, lines 20 through 34, then you are better readers than I am.

6 That's all I have to say today. If you have any questions, I welcome  
7 them.

8 JUDGE BARRETT: Let me ask. Are there questions?

9 JUDGE SIU: No questions.

10 JUDGE BARRETT: Thank you. We understand your position.  
11 Thank you very much.

12 MR. JOY: Thank you very much for your time.

13 (Whereupon, the proceeding was concluded on Thursday, April 23,  
14 2009.)